

## Product datasheet for **TA374685**

### **C6orf150 (MB21D1) Rabbit Polyclonal Antibody**

#### **Product data:**

Product Type:	Primary Antibodies
Applications:	IHC, WB
Recommended Dilution:	WB, 1:500 - 1:2000 IHC, 1:50 - 1:200
Reactivity:	Human, Mouse, Rat
Modifications:	Unmodified
Host:	Rabbit
Isotype:	IgG
Clonality:	Polyclonal
Immunogen:	Recombinant fusion protein containing a sequence corresponding to amino acids 400-522 of human cGAS (NP_612450.2).
Formulation:	Buffer: PBS with 0.02% sodium azide, 50% glycerol, pH 7.3.
Concentration:	lot specific
Purification:	Affinity purification
Conjugation:	Unconjugated
Storage:	Store at -20°C. Avoid freeze / thaw cycles.
Stability:	Shelf life: one year from despatch.
Predicted Protein Size:	49kDa/58kDa
Gene Name:	Mab-21 domain containing 1
Database Link:	<a href="#">Entrez Gene 115004 Human Q8N884</a>



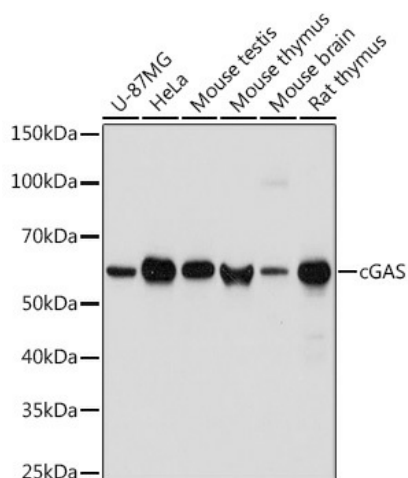
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**Background:**

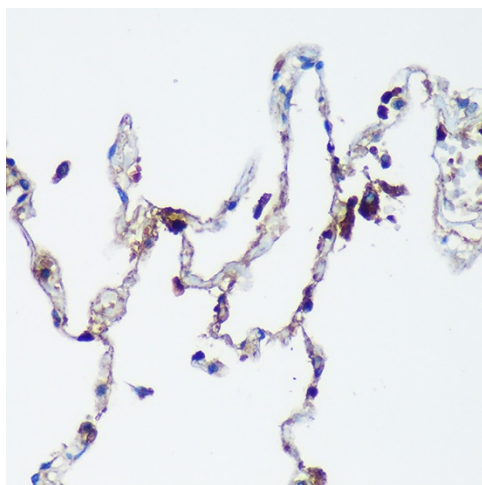
Nucleotidyltransferase that catalyzes the formation of cyclic GMP-AMP (cGAMP) from ATP and GTP and plays a key role in innate immunity (PubMed:23258413, PubMed:23707061, PubMed:23722159, PubMed:24077100, PubMed:25131990, PubMed:29976794, PubMed:30799039). Catalysis involves both the formation of a 2',5' phosphodiester linkage at the GpA step and the formation of a 3',5' phosphodiester linkage at the ApG step, producing c[G(2',5')pA(3',5')p] (PubMed:28363908, PubMed:28214358). Acts as a key cytosolic DNA sensor, the presence of double-stranded DNA (dsDNA) in the cytoplasm being a danger signal that triggers the immune responses (PubMed:28363908). Binds cytosolic DNA directly, leading to activation and synthesis of cGAMP, a second messenger that binds to and activates TMEM173/STING, thereby triggering type-I interferon production (PubMed:28363908, PubMed:28314590). Preferentially recognizes and binds curved long DNAs (PubMed:30007416). In contrast to other mammals, human CGAS displays species-specific mechanisms of DNA recognition and produces less cyclic GMP-AMP (cGAMP), allowing a more fine-tuned response to pathogens (PubMed:30007416). Has antiviral activity by sensing the presence of dsDNA from DNA viruses in the cytoplasm (PubMed:28363908). Also acts as an innate immune sensor of infection by retroviruses, such as HIV-1, by detecting the presence of reverse-transcribed DNA in the cytosol (PubMed:23929945). Detection of retroviral reverse-transcribed DNA in the cytosol may be indirect and be mediated via interaction with PQBP1, which directly binds reverse-transcribed retroviral DNA (PubMed:26046437). Also detects the presence of DNA from bacteria, such as *M.tuberculosis* (PubMed:26048138). cGAMP can be transferred from producing cells to neighboring cells through gap junctions, leading to promote TMEM173/STING activation and convey immune response to connecting cells (PubMed:24077100).

**Synonyms:**

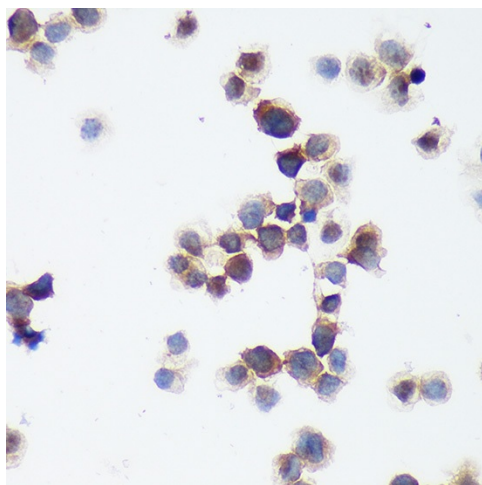
C6orf150; cGAS; h-cGAS

**Product images:**


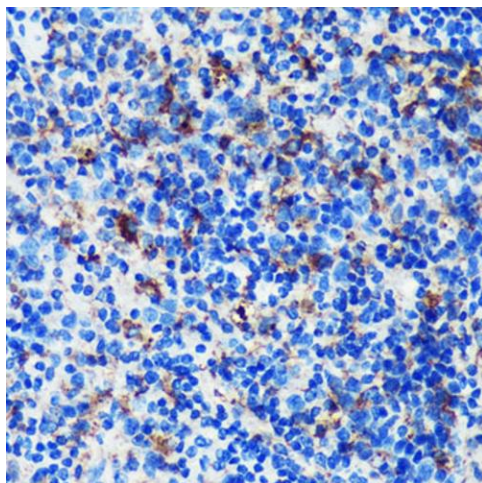
Western blot analysis of extracts of various cell lines, using cGAS antibody (TA374685) at 1:1000 dilution. | Secondary antibody: HRP Goat Anti-Rabbit IgG (H+L) at 1:10000 dilution. | Lysates/proteins: 25ug per lane. | Blocking buffer: 3% nonfat dry milk in TBST. | Detection: ECL Basic Kit. | Exposure time: 1s.



Immunohistochemistry of paraffin-embedded Human lung using cGAS antibody (TA374685) at dilution of 1:100 (40x lens). Perform microwave antigen retrieval with 10 mM PBS buffer pH 7.2 before commencing with IHC staining protocol.



Immunohistochemistry of paraffin-embedded THP-1 cells using cGAS antibody (TA374685) at dilution of 1:100 (40x lens). Perform microwave antigen retrieval with 10 mM PBS buffer pH 7.2 before commencing with IHC staining protocol.



Immunohistochemistry of paraffin-embedded Mouse spleen using cGAS antibody (TA374685) at dilution of 1:100 (40x lens). Perform microwave antigen retrieval with 10 mM PBS buffer pH 7.2 before commencing with IHC staining protocol.